She was followed up regularly for almost two years and showed no signs of relapse. She stopped taking antithyroid drugs several times and suffered brief relapses of hyperthyroidism, but without any psychosis.

Comment

Hyperthyroidism commonly presents with mental changes such as irritability and anxiety, but psychotic symptoms like hallucination and delusion are rare. The review by Ellis and Mellsop shows that de Clérambault's syndrome is also rare.

Our case satisfied all the criteria of the syndrome, but it did not run a chronic course. The prognosis of the primary disorder is generally poor,[2 3] but in this case of secondary erotomania the outcome was good.

1 De Clérambault GG. Les psychoses passionelles. In: *Oeuvres psychiatriques*. Paris: Presses Universitaires de France, 1942:315-22.
2 Ellis P, Mellsop G. De Clérambault's syndrome—a nosological entity. *Br J Psychiatry* 1985;**146**: 90-5.
3 Enoch MD, Trethowan WH. De Clérambault's syndrome. In: Enoch MD, Trethowan WH, eds. *Uncommon psychiatric syndromes*. Bristol: John Wright, 1979:15-35.

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Asphyxiation by a child's dummy

All dummies sold in the United Kingdom conform to British Standard 5239. We report a case in which a dummy caused asphyxia in an 8 month old boy.

Case report

An 8 month old boy, who had used a dummy for seven months, presented with cyanosis but was still making some respiratory effort. The flange of a dummy was wedged behind the posterior tonsillar pillar, and there was a small amount of intraoral blood. The handle (ring) of the dummy was missing, having broken off at the hinge adjacent to the flange. Intraoral digital pressure on one side of the flange caused it to pivot, its edge was gripped with a towel clip, and the dummy was extracted. Suction removed the oropharyngeal blood, and he cried and became pink. He was given oxygen by facemask. His chest was clear on auscultation, and an *x* ray film four hours after admission showed no swelling of the soft tissue in the upper airway. Observation for 24 hours was uneventful.

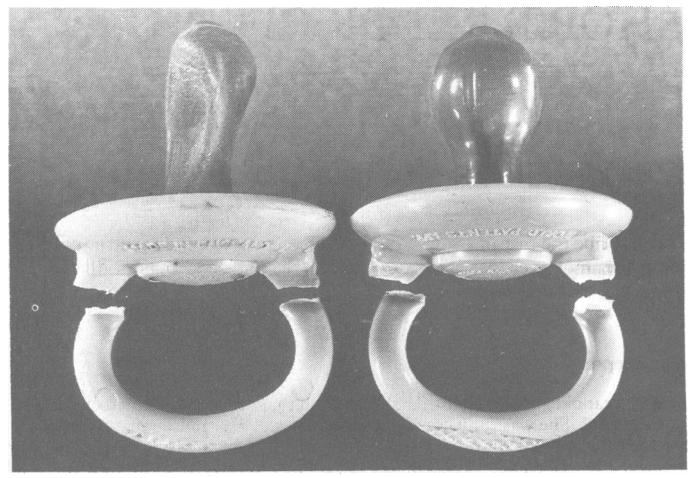
Before presentation he had often had part of his dummy's flange in his mouth, behind either the upper lip or the superior alveolar ridge. Occasionally only the ring would be visible out of his mouth. This time cyanosis was noted when odd gurgling sounds alerted his parents. The ring, still visible between his lips, moved gradually further into his mouth as if he were swallowing it. His father attempted to remove the dummy by grasping the ring and pulling. The ring detached at the flange, which filled out most of his mouth so his father could not extract it. The ambulance crew, attempting digital removal by inverting the child and using the Heimlich manoeuvre, failed to dislodge it. He was given oxygen, and oral suction was performed.

Although the various attempts to remove the dummy may have forced it into the oropharynx, rather than his swallowing on the teat having pulled it there, the relative ease with which it was removed indicates that the oropharynx was big enough for the flange.

THE DUMMY

The dummy was a blend of polypropene-polyisobutene, tough and strong under normal conditions; its fractured surface showed some evidence of strain whitening.

Twelve identical dummies, bought and tested according to the mechanical properties section (7) of British Standard 5239, conformed to the British Standard. Another 12 dummies were studied for the effects of (*a*) deforming at high strain rates and (*b*) fatiguing before (*a*). For British Standard 5239 the ring must withstand a load of 60 N applied over five seconds perpendicular to the main axis and maintained for 10 seconds, a grip separation rate of 0·5 mm/s. Under these conditions, the load causing fracture was 260 N. When the grip separation rate was increased to 5 mm/s the load causing fracture was only 60 N, the fractured surface being almost identical with that of the dummy removed from the child (figure). Fatiguing the dummy (bending the ring through 180° 1000 times) and then stressing it at the higher strain rate increased the load causing the fracture but reduced the ductility.



Fractured surfaces of dummy that caused asphyxiation with a ring broken off during testing (left) and of one subjected to high strain rate (grip separation rate 5 mm/s, load 60 N) (right).

Comment

The ring probably fractured because of the rapid deformation resulting from the father's tugging at the dummy, trying to remove it from the throat of his choking child.

British Standard 5239 considers only a low strain rate; we recommend that dummy rings should withstand a load equal to or greater than 120 N, with a grip separation rate of 5 mm/s. We suggest also that further consideration be given to the size and shape of flanges because of the ease with which the whole of the standard flange entered the baby's mouth and oropharynx. No radiographic data exist on the normal measurements of the oropharynx, except for the length of the hard palate and depth of the posterior pharyngeal wall,[1] primarily because of the variation in amount of soft tissue and its elasticity.

We thank the British Standards Institution for its cooperation.

1 Keats TE. *Atlas of roentgenographic measurement*. Chicago: Year Book Medical Publishers, 1985.

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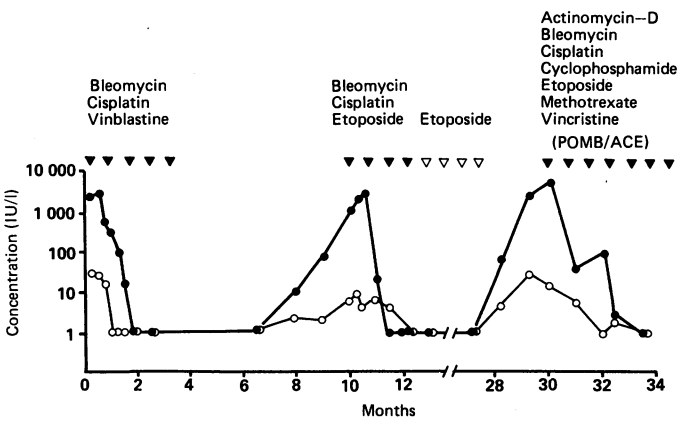
Testicular relapse after chemotherapy for malignant teratoma

Extragonadal presentation of malignant teratoma is well recognised.[1] The treatment is usually cytotoxic chemotherapy, which is highly successful. We report here on a patient who had extragonadal metastatic teratoma and whose testis subsequently relapsed.

Case report

A 23 year old man presented with severe abdominal pain and left supraclavicular lymphadenopathy. No testicular abnormality was noted. Laparotomy showed a large retroperitoneal mass displacing the stomach and duodenum. Biopsy of the tumour showed undifferentiated malignant teratoma. Serum β human chorionic gonadotrophin and α fetoprotein concentrations were increased at 2785 IU/l and 25 IU/l, respectively. Computed tomography showed no evidence of tumour spread to the lung or liver. He received five courses of a three week chemotherapy

regimen (cisplatin 20 mg/m² days 1 to 5; bleomycin 30 mg days 1, 7, and 14; and vinblastine 10 mg days 1 and 2). The concentrations of tumour marker and an abdominal computed tomogram showed complete remission after three courses of chemotherapy (figure).



Serum β human chorionic gonadotrophin (●) and α fetoprotein (○) concentrations during chemotherapy.

Seven months later he relapsed with abdominal pain caused by a retroperitoneal mass and had multiple small (<1 cm) pulmonary metastases detected by computed tomography. Serum β human chorionic gonadotrophin and α fetoprotein concentrations were increased at 1830 IU/l and 10 IU/l, respectively. There was no evidence of liver metastases. Both testes were clinically normal. After four further courses of chemotherapy (bleomycin 30 mg days 1, 7, and 14 and etoposide 100 mg/m² and cisplatin 20 mg/m² days 1 to 5) complete remission was confirmed by scanning and serum marker assays. He then received four courses of etoposide.

Fifteen months later he noticed a painless nodular swelling in his left testis. His α fetoprotein concentration was increased at 12 IU/l, but his β human chorionic gonadotrophin concentration was normal. A left inguinal orchidectomy was performed, and histological examination showed undifferentiated malignant teratoma of the testis. There was no evidence of metastases. Because of the previous extensive chemotherapy a surveillance policy was adopted. Five months later he relapsed with metastases in the retroperitoneum, lung, and liver. β Human chorionic gonadotrophin and α fetoprotein concentrations were increased at 2520 IU/l and 29 IU/l, respectively. Complete remission was obtained after five cycles of a three week POMB/ACE chemotherapy regimen (cisplatin 120 mg/m² day 4, vincristine 2 mg and methotrexate 300 mg/m² day 1, and bleomycin 15 mg days 2 and 3, alternating with actinomycin D 0·5 mg days 3 to 5, cyclophosphamide 500 mg/m² day 5, and etoposide 100 mg/m² days 1 to 5), which was followed by two further cycles for consolidation.

A further orchidectomy to prevent recurrence in the remaining testis was considered but refused by the patient. He remained in remission.

Comment

Apparently normal testes in patients presenting with extragonadal metastatic germ cell malignancy may contain occult primary tumours.[2] As long as the diagnosis of disseminated germ cell malignancy is established the origin of the primary tumour will not influence the choice of treatment, which is chemotherapy. As the initial diagnostic and therapeutic procedure in patients who have tumours of the testis is excision of the primary lesion little is known about the effects of cytotoxic agents on primary intratesticular neoplasms. The concept of a testicular sanctuary site from systemic cytotoxic chemotherapy for acute lymphoblastic leukaemia is well known.[3] Reports of patients who have had second primary germ cell tumours of the testes despite chemotherapy,[4] and the finding of active residual intratesticular tumours despite complete destruction of distant metastases by systemic chemotherapy,[5] suggest that primary testicular teratomas may be fairly resistant to chemotherapy.

The first relapse in our patient could have been caused by metastases from an occult testicular primary, which also gave rise to the initial retroperitoneal tumour. This emphasises the importance of monitoring testes after apparently successful treatment. Regular ultrasound scanning of the testes as well as a monthly estimation of tumour marker concentrations in the first two years after treatment should be considered.

1 Munro AJ, Duncan W, Webb JN. Extragonadal presentations of germ-cell tumours. *Br J Urol* 1983;55:547-54.
2 Powell S, Hendry WF, Peckham MJ. Occult germ-cell testicular tumours. *Br J Urol* 1983;55: 440-4.
3 Eden OB, Rankin A, Kay HEM. Isolated testicular relapse in acute lymphoblastic leukaemia of childhood. *Arch Dis Child* 1983;58:128-32.
4 Powler JE, Vugrin D, Cvitkovic E, Whitmore WF. Sequential bilateral germ-cell tumours of the testis despite interval chemotherapy. *J Urol* 1979;122:421-5.
5 Fowler JE, Whitmore WF. Intra-testicular germ-cell tumours; observations on the effect of chemotherapy. *J Urol* 1981;126:412-4.

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OKT3 and pulmonary capillary permeability

Orthoclone OKT3 (Ortho-Cilag Pharmaceutical Ltd) is a murine monoclonal antibody against the T3 receptor of T lymphocytes that reverses acute renal allograft rejection.[1] Pulmonary oedema may complicate its use, particularly in patients with fluid overload. We report a case of severe pulmonary oedema during the use of OKT3 in which the main causative factor seemed to be increased pulmonary capillary permeability.

Case report

A 27 year old man treated with haemodialysis received a second cadaveric renal allograft, which functioned immediately. His ideal weight after dialysis was 78 kg, and a preoperative chest radiograph showed minimal cardiomegaly, probably due to previous hypertension (cardiothoracic ratio 0·54). Prednisolone and cyclosporin were given to maintain immunosuppression, but severe acute cellular and vascular rejection occurred on day 13. These histological features indicated a poor prognosis,[2] and OKT3 5 mg daily was started with methylprednisolone sodium succinate (1 mg/kg), as recommended. The patient weighed 79·2 kg, the jugular venous pressure was normal, and there was no oedema. A chest radiograph showed no change in heart size (cardiothoracic ratio 0·52) and clear lung fields, although a close retrospective inspection showed peribronchial cuffing and evidence of raised pulmonary venous pressure.

After the first dose of OKT3 he had fever (39°C), rigors, diarrhoea, and frontal headache; these are recognised reactions. A second dose, 20 hours later, however, caused periorbital oedema, a widespread petechial rash, and severe dyspnoea at rest. Investigations showed hypoxia and metabolic acidosis (Pao_2 9·9 kPa, $Paco_2$ 2·48 kPa, pH 7·32, base excess −16·6 mmol/l with the patient breathing air), thrombocytopenia (55×10^9/l), and leucopenia ($2{\cdot}1\times10^9$/l) but no eosinophilia ($0{\cdot}02\times10^9$/l). A chest radiograph showed severe pulmonary oedema with features of both capillary and renal origin.[3] A non-invasive double isotope assessment of pulmonary microvascular permeability to transferrin was carried out within four hours after the onset of dyspnoea, before urgent haemodialysis.[4] Extravascular pulmonary transferrin accumulation indicating increased capillary permeability was suggested by a protein accumulation index of 1·22 ($\times10^{-3}$/min) for the left lung and 1·65 for the right (normal mean 0·41 (SD 0·44)[4]). Thirty six hours later, after a second haemodialysis, his weight had fallen to 71 kg, the alveolar oedema had resolved, and a repeat radioisotope study gave a normal result. The clinical state and radiographic appearance continued to improve, and the course of OKT3 was resumed after 72 hours. Further adverse effects were few, and the rejection episode was successfully controlled. Three months later graft function was stable (plasma creatinine concentration 231 μmol/l) and his weight was 78·5 kg.

Comment

In renal disease pulmonary oedema seems to be due to fluid overload rather than to increased pulmonary vascular permeability to high molecular weight solutes or to heart failure.[4] Pulmonary oedema occurs in less than 2% of recipients of OKT3 and is associated with fluid overload (manufacturer's information sheet). An increase in weight of more than 3% in the week preceding treatment or clinical evidence of fluid overload therefore contraindicates the use of OKT3. Despite a weight gain of less than 2% our patient experienced a lifethreatening adverse reaction with evidence of increased pulmonary and cutaneous vascular permeability after the second dose. An allergic response or bacterial or endotoxin contamination was unlikely because subsequent doses from the same batch did not produce serious sequelae. The rapid recovery after dialysis and removal of fluid also made pulmonary infection unlikely. The postoperative weight gain of less than 2% and a raised protein accumulation index favoured abnormal capillary permeability as the cause of the pulmonary oedema. Retention of salt and water may also have contributed, but there is no evidence in man